



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/785,561	02/24/2004	Christopher J. C. Burges	MS305584.02/MSFTPS62US	1279
27195	7590	04/10/2008		
AMIN, TUROCY & CALVIN, LLP			EXAMINER	
24TH FLOOR, NATIONAL CITY CENTER			BRINLEY III, WALTER F	
1900 EAST NINTH STREET			ART UNIT	PAPER NUMBER
CLEVELAND, OH 44114			2615	
		NOTIFICATION DATE	DELIVERY MODE	
		04/10/2008	ELECTRONIC	

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Notice of the Office communication was sent electronically on above-indicated "Notification Date" to the following e-mail address(es):

docket1@thepatentattorneys.com
hholmes@thepatentattorneys.com
osteuball@thepatentattorneys.com

Office Action Summary	Application No. 10/785,561	Applicant(s) BURGES ET AL.
	Examiner WALTER F. BRINEY III	Art Unit 2615

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
 - If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
 - Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED. (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) Responsive to communication(s) filed on 10 January 2008.
- 2a) This action is FINAL. 2b) This action is non-final.
- 3) Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) Claim(s) 1-27 is/are pending in the application.
- 4a) Of the above claim(s) 14-27 is/are withdrawn from consideration.
- 5) Claim(s) _____ is/are allowed.
- 6) Claim(s) 1-11 and 13 is/are rejected.
- 7) Claim(s) 12 is/are objected to.
- 8) Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) The specification is objected to by the Examiner.
- 10) The drawing(s) filed on _____ is/are: a) accepted or b) objected to by the Examiner.
 Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
 Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) All b) Some * c) None of:
 1. Certified copies of the priority documents have been received.
 2. Certified copies of the priority documents have been received in Application No. _____.
 3. Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) Notice of References Cited (PTO-892)
 2) Notice of Draftsperson's Patent Drawing Review (PTO-948)
 3) Information Disclosure Statement(s) (PTO/146/08)
 Paper No(s)/Mail Date _____
- 4) Interview Summary (PTO-413)
 Paper No(s)/Mail Date _____
- 5) Notice of Informal Patent Application
 6) Other: _____

DETAILED ACTION***Election/Restrictions***

Claims 14-27 remain withdrawn for being directed to a non-elected invention.

Claim Rejections - 35 USC § 103

5 The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all
obviousness rejections set forth in this Office action:

10 (a) A patent may not be obtained though the invention is not identically disclosed or described as set
forth in section 102 of this title, if the differences between the subject matter sought to be patented and
the prior art are such that the subject matter as a whole would have been obvious at the time the
invention was made to a person having ordinary skill in the art to which said subject matter pertains.
Patentability shall not be negated by the manner in which the invention was made.

1. **Claims 1-3, 6, 10 and 13 are rejected under 35 U.S.C. 103(a) as being
unpatentable over US Patent Application Publication 2002/0113824 A1 (filed
14 January 2002) (herein *Myers*) in view of US Patent Application
Publication 2003/0125936 A1 (filed 15 October 2002) (herein *Dworzak*).**

15 **Claim 1** is limited to a system for managing audio information. The instantly
claimed detector tags audio files for potential removal based on a distance between a first
corresponding fingerprint of a first audio file of a plurality of audio files and a second
corresponding fingerprint of a second audio file of the plurality of audio files. The
20 previous rejection of claim 1 illustrated that detecting duplicates within the jukebox of
Myers according to the method of *Dworzak* was obvious. *Dworzak* detects duplicate
songs by comparing fingerprints of two songs in a point-wise manner, and if the
difference between fingerprints is small enough, the two songs are considered identical.
Dworzak at ¶ 40. This comparison and determination of identity is just like the claimed
25 detector's tagging based on the distance between a first and second audio file.

Instantly amended, claim 1 also includes the language: "the second corresponding fingerprint selection is selected from a series of corresponding fingerprints computed for the second audio file based in part on a specified selection order." Notably, this language is in the passive voice ("selection is selected") and no actor exists. Without

- 5 an actor, this functional language describing how the second audio file is selected fails to limit the claimed system for managing audio information since any actor internal, or *external*, to the system could perform the selection operation. The only possible limitation on the claimed system's structure is the existence of a second fingerprint, but the second fingerprint already existed by virtue of the detector's distance comparison.
- 10 Accordingly, this new language fails to limit the scope of claim 1. All other limitations not specifically treated *supra* are rejected for the same reasons presented in the Non-Final Rejection at pp. 2-3 (10 October 2007). Therefore, *Myers* in view of *Dworzak* makes obvious all limitations of the claim.

- 15 **Claim 2** is limited to the system of claim 1, as covered by *Myers* in view of *Dworzak*. *Dworzak* teaches marking two audio fingerprints as identical when their distances are below a threshold. *Dworzak* at [0040]. Therefore, *Myers* in view of *Dworzak* makes obvious all limitations of the claim.

- 20 **Claim 3** is limited to the system of claim 1, as covered by *Myers* in view of *Dworzak*. *Dworzak* teaches that marking two audio fingerprints as identical requires measuring the distance between the fingerprints. Distance is measured between two audio files by the sum-of-the-squared-differences, where the differences are determined between fingerprints $a'_{z,n}$ and $b'_{z,n}$, where z represents a plurality of time indices for each

audio file. *Dworzak* at [0040]. Therefore, *Myers* in view of *Dworzak* makes obvious all limitations of the claim.

Claim 6 is limited to the system of claim 1, as covered by *Myers* in view of *Dworzak*. This claim refers to two databases containing a plurality of data. However, 5 only the fingerprint datum is logically linked to any other system elements. The other data correspond to nonfunctional descriptive material and are accorded weight only as general data within a database. *See In re Gulack*, 703 F.2d 1381, 1385, 217 USPQ 401, 404 (Fed. Cir. 1983); *In re Lowry*, 32 F.3d 1579, 32 USPQ2d 1031 (Fed. Cir. 1994). *Dworzak* teaches both databases, the fingerprints and the other general data. *See* 10 *Dworzak* at [0053] (the method is computerized, meaning it requires a first database containing the stored fingerprints and a second database containing other data, such as computer instructions). Therefore, *Myers* in view of *Dworzak* makes obvious all limitations of the claim.

Claim 10 is limited to the system of claim 1, as covered by *Myers* in view of 15 *Dworzak*. *Myers* discloses outputting a list of detected duplicate audio files. *Myers* at [0103]. Since the jukebox system of *Myers* is computerized, it follows that the generated output list is stored in a memory corresponding to the claimed database. *See id.* at fig.1. Therefore, *Myers* in view of *Dworzak* makes obvious all limitations of the claim.

Claim 13 is limited to the system of claim 1, as covered by *Myers* in view of 20 *Dworzak*. The methods of *Myers* and *Dworzak* are computerized; meaning the combined system of those two references comprises a computer readable medium having computer readable instructions stored thereon for implementing the fingerprinting component and

Art Unit: 2615

the detector of claim 1. *See Myers* at fig.1; *Dworzak* at [0053]. Therefore, *Myers* in view of *Dworzak* makes obvious all limitations of the claim.

2. **Claims 5 and 11 are rejected under 35 U.S.C. 103(a) as being unpatentable over *Myers* in view of *Dworzak* and further in view of *Wu*, An Introduction to Object-Oriented Programming with Java, WCB, McGraw-Hill (1999) (herein *Wu*).**

Claim 5 is limited to the system of claim 1, as covered by *Myers* in view of *Dworzak*. *Dworzak* teaches generating a fingerprint with 4x9 values—that is, four periods z by nine spectral components n. *Dworzak* at [0030]. Although the period analyzed is more than one second of audio, the fingerprint only consists of 36 numbers. However, *Dworzak* explicitly recognizes that alternative values may be chosen including 64. *See id.* at [0035]. Moreover, since applicant fails to specify the criticality of using 64 floating point numbers (paragraph [0010], for instance indicates that 64 is merely exemplary, and that other values could also be used), it would have been obvious to one of ordinary skill in the art to use 64 floating point numbers as a matter of design choice.

It is further noted that neither *Myers* nor *Dworzak* teach using floating point (or fixed point) numbers in fingerprint calculation. The examiner takes Official Notice of the fact that floating point numbers were well known for use in computerized calculations.

Floating point numbers allow for far greater precision in representing numbers than fixed point numbers. For example, *Wu* (an elementary book in programming) discloses representing numbers in a computer in either integer or floating point format. *Wu* at p. 125, § 3.8. While integer format is strictly limited to representing integers of values in

Art Unit: 2615

the range of 2^N , where N=the number of bits available for representation, floating point format allows for scientific notation, and representation of ratios. *Id.* at pp. 125-129. As compared to integer format, one of ordinary skill in the art would recognize that floating point format's ability to store ratios increases both the accuracy and precision of the

- 5 represented number and floating point format's ability to store numbers using scientific notation allows for a greater range of values. Therefore, it would have been obvious to one of ordinary skill in the art at the time of the invention to perform fingerprint calculation with floating point arithmetic units since its precision allows retention of the most information as compared with integer arithmetic.

- 10 **Claim 11** is limited to the system of claim 10, as covered by *Myers* in view of *Dworzak*. This claim recites logging error conditions while processing the audio files and outputting a list of files associated with the error conditions to the user interface. While the cited prior art does not teach this limitation, the examiner takes Official Notice of the fact that tracking and reporting file I/O errors—such as a failed attempt to open a file
15 locked for editing or recently deleted—was well known at the time of the invention for use in graphical environments. For example, *Wu* (an elementary book in programming) discloses that programs generate I/O exceptions when accessing files. *Wu* at p. 502 (reading data from a nonexistent file, attempting to read beyond the end of the file). *Wu* also discloses that exceptions should be logged and printed. *Id.* at p. 517. Therefore, it
20 would have been obvious to one of ordinary skill in the art at the time of the invention to simply track and report file I/O errors.

3. **Claims 4 and 7-9 are rejected under 35 U.S.C. 103(a) as being unpatentable over Myers in view of Dvorak and further in view of US Patent Application Publication 2003/0191764 A1 (effective filing date of 13 March 2002) (herein Richards).**

5 **Claim 4** is limited to the system of claim 3, as covered by *Myers* in view of *Dworzak*. The fingerprinting method of *Dworzak* includes receiving a computer instruction containing the length of z, which corresponds to a time window, but does not include accepting a time offset into the audio file. *See Dworzak* at [0030] & [0053].

10 Nevertheless, *Richards* suggests fast forwarding to the first non-silent sample within an audio file before performing fingerprint analysis. *Richards* at [0041]. The obvious benefit of doing so is reducing the amount of time spent processing samples that yield trivial results—i.e., zero. Therefore, it would have been obvious to one of ordinary skill in the art at the time of the invention to provide a time offset into the audio file for initial processing as taught by *Richards* to realize the aforementioned advantage.

15 **Claim 7** is limited to the system of claim 4, as covered by *Myers* in view of *Dworzak*. *Dworzak* teaches computing fingerprints for all indexed audio files within a database to determine fingerprints at time windows z and comparing the time windows against each other. *See Dworzak* at [0013], [0030] & [0040]. The comparison results yields an identical file having the best set of matching time windows/locations z is flagged as a duplicate. *Id* at [0040]. Therefore, *Myers* in view of *Dworzak* makes obvious all limitations of the claim.

Claim 8 is limited to the system of claim 7, as covered by *Myers* in view of *Dworzak*. The GUI of *Myers* displays a list of duplicate audio files arranged by their song title. *Myers* at [0042] & [0103]. This requires that the detector, formed by the combination of *Myers* and *Dworzak*, also determine the identity of audio files determined

- 5 to be duplicates so they can be displayed. Therefore, *Myers* in view of *Dworzak* makes obvious all limitations of the claim.

Claim 9 is limited to the system of claim 8, as covered by *Myers* in view of *Dworzak*. The identity disclosed by *Myers* is the song title, which corresponds to metadata associated with an audio file. *Myers* at [0042]. Therefore, *Myers* in view of

- 10 *Dworzak* makes obvious all limitations of the claim.

Allowable Subject Matter

4. **Claim 12 is objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.**

- 15 **Claim 12** is limited to the system of claim 1, as covered by *Myers* in view of *Dworzak*. While the prior combination of *Myers* and *Dvorak* makes obvious detecting duplicates using audio fingerprints, there is simply no suggestion found in these references to use a veto fingerprint to detect noisy audio files. Thus, claim 12 is allowable over the cited prior art.

20 *Response to Arguments*

Applicant's arguments filed 10 January 2008 have been fully considered but they are not persuasive. Concerning claim 1, applicant alleges that the combination of *Myers*

and *Dworzak* fails to disclose the claimed invention because the fingerprint comparison method of *Dworzak* does not compare a series of fingerprints of a second audio file against a first fingerprint of a first audio file. Applicant Arguments at pp. 6-10 (10 January 2008). Notwithstanding the propriety of applicant's description of *Dworzak*, the

5 claimed invention does not compare a series of fingerprints of a second audio file against a first fingerprint of a first audio file. Instead, the claimed invention, specifically the detector, tags an audio file for potential removal from a data storage device based in part upon a distance between a first fingerprint of a first audio file and a second fingerprint of a second audio file. Claim 1 indicates that the second fingerprint is selected from a series

10 of fingerprints for the second audio file, but the claim does not link the selection function to any element of the system and does not indicate that the remaining fingerprints of the series are compared by the detector against the first fingerprint. Accordingly, the system of claim 1 is not limited in the manner indicated by applicant. Since applicant's argument is premised on a faulty construction of claim 1, applicant's argument is

15 unpersuasive.

Concerning claim 5, applicant appears to allege that the rejection of the use of 64 floating point numbers as obvious concludes that the use of 64 numbers is obvious simply because applicant only uses the number 64 as an example. Applicant Arguments at p.10. The rejection of claim 5, however, begins by noting that *Dworzak* contemplates a range

20 of numbers to use, including the number 64. The rejection then notes that applicant only uses 64 as an example, but applicant does not specify that the use of 64 numbers is particularly advantageous. Since *Dworzak* indicates that the use of 64 is known and

predictable and applicant has not shown any unexpected results from using 64 numbers, the use of 64 numbers is then obvious as a design choice.

Concerning claim 6, applicant alleges that the data stored in the databases used by the detector are functionally related to the claimed system's elements because the

- 5 detector uses the databases and the databases comprise records with the corresponding data so the record elements are used by the detector. Applicant Arguments at p.11. Applicant's construction of the claim violates the principle of not reading limitations from the specification into the claim. Just because the detector makes use of databases and the databases include records with data does not require that the detector makes use
10 of the record data enumerated. Such an inference can only result from positing a claim limitation: the detector uses the records of the database. The case might be different if the database constructively "consisted" of the enumerated records. Instead, the claim merely recites that "a record" includes certain enumerated data types without limiting the databases to a single record. Since the claim does not logically link the records to the
15 detector, applicant's argument is unpersuasive.

Concerning claim 4, applicant alleges that *Richards* does not disclose a time offset as claimed because the time offset of the claim would simply result in starting at an arbitrary time in the song and not necessarily at the first non-noise sample. Applicant Arguments at p. 12. Applicant's argument assumes that only one type of time offset can
20 possibly exist: an arbitrary and "dumb" time offset not made in regard to the content of the song under process. Absent any express limitation in the claim or unequivocal

definition founded in applicant's specification of the term "time offset," applicant's allegation is without merit, and is unpersuasive.

Concerning claims 5 and 11, applicant's arguments are moot in view of new grounds of rejection.

5

Conclusion

Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

10 A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any 15 extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Walter F. Briney III whose telephone number is 571-272-2020. The examiner can normally be reached on M-F 8am - 4:30pm.

Art Unit: 2615

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Sinh Tran can be reached on 571-272-7564. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the

- 5 Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business
- 10 Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/wfb/

15

4/8/08

/Sinh N Tran/

Supervisory Patent Examiner, Art Unit 2615